

(19)



Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) Publication number:

**0 404 500
A2**

(12)

EUROPEAN PATENT APPLICATION

(21) Application number: 90306653.8

(51) Int. Cl.⁵: A46B 11/00, A46B 5/02,
A47K 7/03

(22) Date of filing: 19.06.90

(30) Priority: 23.06.89 ZA 894776
19.01.90 ZA 900382
02.02.90 ZA 900788

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(43) Date of publication of application:
27.12.90 Bulletin 90/52

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(64) Designated Contracting States:
AT BE CH DE DK ES FR GB GR IT LI LU NL SE

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(54) Body brush and method of manufacture thereof.

(57) A body brush is disclosed which comprises a handle part and a dish-shaped body part with bristles thereon, the parts being flexible and removably attachable to each other, and defining a cavity between them so that the body brush can contain a cake of soap, a fluid or the like to be applied to the body, the body part being provided with openings for allowing the contents of the brush to exit there-

from. The handle part comprises transversely extending fins or baffles at its normally lower end projecting into the cavity, so as to promote an even distribution of the contents of the body brush to the bristles.

The specification also discloses accessories for the brush, a body cleaning set and a method of manufacturing the brush.

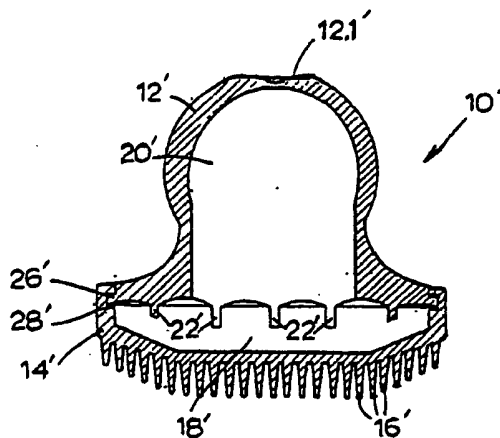


FIG 3

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BODY BRUSH AND METHOD OF MANUFACTURE THEREOF

FIELD OF THE INVENTION

This invention relates to a brush suitable for use on the human body, comprising a handle part and a dish-shaped body part with bristles thereon, the parts being flexible and removably attachable to each other, and defining a cavity between them so that the body brush can contain a cake of soap, a fluid or the like to be applied to the body, the body part being provided with openings for allowing the contents of the brush to exit therefrom. The invention also extends to accessories for the body brush, to a body cleaning set and to a method of manufacturing the brush.

BACKGROUND OF THE INVENTION

Various kinds of body brushes are known to the applicant. One such body brush has been disclosed by French Patent No 2473298, and comprises a rigid case adapted to the palm of the hand as a grip, with a part which is elliptical in shape and which is open for inserting soap therein. It also comprises a support holding a base which has one surface against the skin and holes for the soap foam to come through. Protuberances perform the mechanical action of massaging.

US Patent No 4 222 676 and European Patent No 3017 disclose a hand held massager comprising a massaging and dispensing cap fitted onto a hollow body containing a treatment fluid. The dispensing cap has a circular flange projecting upwards from the centre, with a rib around the interior, to fit behind another rib around the outside of the neck to give a tight seal.

US Patent No 2 513 772 discloses a device for applying massage, comprising a hollow deformable body open on its normally lower side, a rigid ring secured around the periphery of the open side of said hollow body; a wall extending across the open side of said hollow body and having a periphery shaped to removably engage with a cooperating portion of said ring, said wall and hollow body providing a chamber adapted to contain a fluid; and fingers projecting downwardly from said wall and provided with fine bores extending from the lower ends of said fingers into communication with the hollow body.

Federal Republic of Germany Patent No 2 749 156 describes a skin massage and treatment liquid applicator pad which has a hand grip and a liquid holder fitted into a distributor cap with a massage surface.

However, the aforementioned devices to a

greater or lesser degree suffer from a number of disadvantages of which one is the poor distribution of the treatment fluid over the surface of the device which in use is in contact with the body.

Another disadvantage of these prior art devices is that they are often of a hardness which causes discomfort and even damage to the human skin, particularly if the distribution of the treatment fluid over the contact surface of the device is poor.

Other disadvantages of such conventional devices include their inconvenience in washing, massaging or otherwise treating remote parts of the body.

SUMMARY OF THE INVENTION

According to one aspect of the invention, there is provided a body brush of the kind referred to in the opening paragraph, characterized in that the handle part comprises transversely extending fins or baffles at its normally lower end projecting into the cavity, so as to promote an even distribution of the contents of the body brush to the bristles.

The handle part may be hollow, defining a chamber which may be in communication with the cavity.

By compressing the handle part, any liquid contained by the body brush in the chamber or the cavity may be forced through the openings in the body part. The handle part may be provided with one or more holes for air intake, which may assist in creating foam inside the cavity and/or the chamber, and in forcing the liquid therefrom, by manipulation with the hand.

The thickness and material of construction of the handle part may be such as to facilitate a pump action of the handle part which may be carried out by opening and closing the hand. To this end, the handle part may be shaped such as to fit a user's hand when it is in a partly closed position. The said pump action may facilitate distribution of a gel and/or a cream and/or a solution placed inside the chamber or the cavity, with the aid of the fins or baffles. In addition, the pump action may also facilitate the flow of water and air through the holes in the body part, into the chamber, and/or the cavity, where it may be allowed to mix with a gel, a solution or a shampoo, or where it may dissolve or partly dissolve a cake of soap or the like. The pump action of the handle part, together with the baffles or fins, may permit the use of the body brush in a horizontal position, whilst still having an even distribution of the contents of the cavity to the bristles.

The handle part may conveniently be provided with a flat surface at its normally top end suitable for supporting the brush when it is turned upside down. Preferably, the flat surface is positioned such as to permit the brush to rest in a stable position when placed thereon.

By turning the body brush upside down, and upon separation of the lower part from the upper part, a body treatment fluid such as a gel, a solution, a cream, a shampoo or the like may be introduced into the hollow handle part before replacing the lower part.

The handle part and the body part may be attachable to each other by means of clips. The clips may be adapted, through pressure, to form a stronger seal between the handle and body parts.

In a preferred embodiment of the invention, the handle part is provided with an outwardly projecting, circumferentially extending flange adapted to coact with an inwardly facing complementary groove provided in the perimeter of the body part, the flange being more rigid than the material forming the groove of the body part. In this way, the body part may engage with the handle part in snap fit fashion.

The body brush may be manufactured of a polymeric material such as rubber. The rubber may be formulated such that, upon vulcanisation thereof, the body part has a hardness suitable for use on the human body. I have found that a hardness, expressed on the A scale of Shore hardness, of between about 25 and about 45 yields good results, with a Shore hardness of about 35 being particularly suitable. If the hardness is too high, over stimulation of the skin may occur, whilst if it is too low, the scrubbing action of the body part becomes unacceptable, and the body part is too easily deformed and separated from the handle part during use of the body brush. The rubber compound from which the handle part is made, may be formulated so that upon vulcanization, it will have a higher hardness than that of the body part. Thus, it may be formulated to have a Shore hardness, upon vulcanization, of between about 35 and about 65, preferably around 55, on the A scale.

In preparing different rubber compound formulations so as to test their effect on the finished product after vulcanization, I have found that elongation at break, in addition to Shore hardness, plays an important role in defining the desirable properties of the body brush. Thus, I have found that the finished product should have a rather high elongation at break, if compared with other rubber products. In order to ensure good mouldability in an injection moulding process. A preferred range for elongation at break, for both the body part and the handle part, is between 550% and 650%, with values around 600% being particularly suitable.

To improve the appearance of the body part, it may be scented and/or pigmented and it is preferably scented and pigmented such as to form a relationship between the scent and the colour of the pigment which is pleasing to the user. For instance, both the colour and the scent may be selected to correspond with respectively those of a rose, an ivy, an apple, etc.

The bristles may be integrally moulded with the body part. At least some of the bristles may be arranged in a star or a cross-shaped pattern to assist in distribution of the contents of the brush or to promote the massaging action thereof.

The bristles may be of different thicknesses, the bristles forming the star or cross-shaped pattern being thicker than the surrounding bristles.

The bristles may be substantially cylindrically shaped and their free edges may be chamfered. Alternatively, they may be substantially frusto-conically shaped, or else they may be in the form of knobs or other suitably shaped projections.

In one embodiment of the invention, the bristles are in the form of a plurality of transversely extending blades which may also be made of the polymeric material and which may be moulded integrally with the rest of the body part. The blades may be arranged such that each of them is disposed at an angle to the surface of the body part. Conveniently, they vary in length in a transverse direction with respect to the blades, from one side of the body part to the other. Alternatively or additionally, they may vary in length in a longitudinal direction, from one side of the body part to the other. This embodiment of the invention may be used to remove the remains of old or dead skin from the body.

In order for the blades to have the desired degree of stiffness, i.e. they should preferably be less flexible than the embodiments of the body part which are to be used for massaging or for the application of lotions, the formulation of the rubber compound which is to be used for the lower part comprising the aforementioned blades should be prepared such as to ensure a Shore hardness (as measured on the A scale) in the region of about 40, upon vulcanization.

According to another aspect of the invention, there is provided a handle accessory for a body brush as hereinbefore disclosed, comprising:

- a base member removably connectable to the body part of the body brush and being adapted, together with the body part, to define a chamber for containing a liquid or solid substance; and
- an elongated handle member integrally formed with the base member, so as to permit the use of the body part in or on remote parts of the body.

The base member may be provided with fastening means adapted to fasten the base member

to the body part. The fastening means may be in the form of a circumferentially extending, outwardly projecting flange provided along the perimeter of the base member, the flange being adapted to engage with the groove of the body part.

To facilitate packaging and storage after use, such as when the accessory is to be packed for travelling purposes, the handle member may comprise two separable parts. The handle member is conveniently provided with a longitudinally extending bore suitable for storing a fluid such as lotion or the like. The distal end of the handle member may be provided with a removable closure for closing the bore. The proximal end of the bore may be in communication with the cavity.

The invention also extends to a body cleaning set, comprising a handle part and a plurality of body parts, each body part being different in terms of Shore hardness, bristle shape and/or configuration.

The body cleaning set may, in addition, comprise a handle accessory as hereinbefore disclosed.

The body cleaning set may further include a stand comprising a shelf member provided with one or more first apertures, each first aperture being adapted to receive a tube of a lotion, a gel, or the like; and a second aperture adapted to receive a body brush in accordance with the invention.

The stand may also comprise a shelf adapted to receive a handle accessory as hereinbefore disclosed.

The invention further extends to a method of manufacturing a body brush, including the steps of - forming the body brush by injection moulding using a rubber compound, the body brush comprising a handle part and a dish-shaped body part with bristles thereon, the parts being flexible and removably attachable to each other, and defining a cavity between them so that the body brush can contain a cake of soap, a fluid or the like to be applied to the body, the body part being provided with openings for allowing the contents of the brush to exit therefrom; and

- vulcanizing the rubber compound, the improvement wherein the handle part comprises transversely extending fins or baffles at its normally lower end projecting into the cavity.

The method may include the step of preformulating the rubber compound so that the body brush will have, upon vulcanization thereof, an elongation at break of between 550% and 650%, a Shore hardness of the handle part, as measured on the A scale, of between 35 and 65, and a Shore hardness of the body part, as measured on the A scale, of between 25 and 45.

BRIEF DESCRIPTION OF THE DRAWINGS:

The invention will now be described, by way of example, with reference to the accompanying drawings in which:

- Figure 1 is a plan view of one embodiment of a brush according to the invention;

- Figure 2 is a perspective view of the brush of Figure 1;

- Figure 3 is a vertical cross-section through another embodiment of a brush according to the invention;

- Figure 4 is a side view, partly in cross-section, along the line IV-IV shown in Figure 1;

- Figure 5 is an underneath plan view of the brush of Figure 1;

- Figure 6 is an underneath plan view of the handle part of the body brush shown in Figures 1, 2 and 4;

- Figure 7 is a plan view of a handle accessory in accordance with the invention;

- Figure 8 is a sectional elevation of the handle accessory shown in Figure 7;

- Figures 9, 10 and 11 are respectively a side elevation, a front elevation and a plan view of a stand forming part of a body cleaning set in accordance with the invention; and

- Figure 12 is a section through another embodiment of a body part forming part of the brush in accordance with the invention.

DETAILED DESCRIPTION OF THE DRAWINGS

Referring to Figures 1 to 6, reference numeral 10, 10' generally indicates a body brush comprising a hollow handle part 12, 12' and a dish-shaped body part 14, 14' provided with bristles 16, 16' thereon.

The handle part 12, 12' and the body part 14, 14' together define between them a cavity 18, 18'.

The handle part 12, 12' is hollow and defines a compression chamber 20, 20' which at its top end is connected to the atmosphere by means of a pair of vent holes (not shown), and at its lower end to the cavity 18, 18' defined between the handle part 12, 12' and the body part 14, 14'.

As is shown in Figures 3, 4 and 6, the handle part 12, 12' is provided with a number of fins 22, 22' at its lower end, projecting into the cavity 18, 18'.

The parts 12, 12' and 14, 14' are moulded from a rubber compound, and the shape of the handle part 12, 12' is such as to promote structural strength of the body brush 10, 10'. The bristles 16, 16' are integrally moulded with the body part 14, 14'.

As is shown in Figure 5, the bristles 16 are of

two thicknesses, i.e. thicker bristles 16.1 which are arranged in a star-shaped pattern and thinner bristles 16.2 surrounding the thicker bristles 16.1.

Holes 24 are provided in the body part 14, for allowing solution in the cavity 18, 18' to flow outwards to the bristles, and to permit air and/or water to be sucked into the cavity 18, 18'. The position and distribution of the holes 24 are arranged such that they facilitate distribution of solutions or mixtures discharged from the cavity 18, 18' to all or substantially all of the bristles 16, 16' of the body part 14, 14', even if the body brush 10, 10' is held in a horizontal position.

Referring to Figure 3, the handle part 12' has a flat surface 12.1' suitable for supporting the body brush 10' when it is turned upside down. The flat surface 12.1' is positioned such as to allow the body brush 10' to rest in a stable position when it is placed thereon. By turning the body brush 10' upside down and upon separation of the body part 14' from the upper part 12', a gel, a solution, a cream, a shampoo or the like may be introduced into the chamber 20' of the handle part 12' before the body part 14' is replaced.

The handle part 12, 12' is shaped such as to fit a user's hand when it is in a partly closed position, and facilitates a pump action when the user's hand is opened and closed. The pump action of the handle part 12, 12', together with the fins 22, 22' of the body part 14, 14' as described above and illustrated in Figures 3, 4, and 6 permit the use of the body brush 10, 10' in a horizontal position.

The handle part 12, 12' is provided with an outwardly projecting, circumferentially extending flange 26, 26' adapted to coact with an inwardly facing complementary groove 28, 28' provided in the perimeter of the body part 14', the flange of the handle part 12' being more rigid than the material forming the groove 28, 28' of the body part 14, 14', so that the body part 14, 14' may engage with the handle part 12, 12' in snap fit fashion.

In use of the brush 10, 10', a substance which is to be applied to the body, such as a cream or a body lotion is introduced into the chamber 20, 20' by separating the parts 12, 12' and 14, 14' from each other.

The body is then massaged or brushed and by compressing the handle part 12, 12', the contents of the brush are forced through the openings 24 on to the bristles and the skin.

The fins 22, 22' promote even flow and distribution of the contents of the brush 10, 10' and are provided with centre grooves or recesses 22.1 to assist in this function.

The particular arrangement of the bristles 16, 16' further assists the distribution of lotion and the massaging action.

The body brush 10 may be used for various

purposes, such as for massaging the body to increase blood circulation, to reduce celluloid and to strengthen skin tissue, as well as for the application of creams and fluids to the body for health care and hygiene purposes.

In Figures 7 and 8, reference numeral 30 generally indicates a handle accessory in the form of a long reach handle.

The handle accessory 30 comprises a circular base member 32. The base member 32 is removably connectable to the body part 14, 14' of the body brush 10, 10' and is adapted, together with the body part 14, 14', to define a cavity similar to cavity 18, 18' for containing a liquid or solid substance (not shown).

The accessory 30 further comprises an elongated handle member 34 which is divided into two separable parts 34.1 and 34.2 which are connected to each other by means of a socket on the free end of part 34.1 and a complementary spigot on the end of part 34.2 adapted to fit into the socket of the part 34.1. The handle member 34 has a bore 34.3 extending from the base member 32, where it is in communication with the cavity 18, 18', through both parts 34.1, 34.2 up to the distal extremity of the part 34.2.

The base member 32 is provided with a circumferentially extending outwardly facing rim or flange 36 along its perimeter, the rim or flange 36 being adapted to engage with the groove 28, 28' of the body part 14, 14'.

A threaded cap 38, which is provided with a lug 40, is provided to close off the bottom end of the part 34.2.

In use, a person holds the accessory 30 by the handle member 34. A solid or a liquid substance such as a gel, a lotion, a soap or the like, is placed in the bore 34.3 before closing it with the cap 38 and before connecting a body part 14, 14' to the base member 32. The handle accessory 30 may then be used to wash or massage remote parts of the body.

Referring to Figures 9, 10 and 11, there is shown a stand 50 comprising a shelf member 52 which is provided with three first apertures 54, 56 and 58 and a second aperture 60, each first aperture being adapted to receive a tube of a lotion or a gel and the second aperture being adapted to receive a body brush 10, 10' in accordance with the invention.

The stand 50 also comprises a shelf 62 adapted to receive a handle accessory 30 as hereinbefore described.

The stand 50 is made of a substantially rectangular sheet of material bent along two bending lines 50.1, 50.2 extending transversely across the sheet, so as to be of substantially L-shaped form as is shown in Figure 9, with the shelf 62 forming

the horizontal leg of the stand 50. The vertical leg of to stand 50 is provided with holes 64, to facilitate hanging of the stand 50 against a wall or the like vertical surface.

Figure 12 shows an alternative embodiment of a body part 14". The body part 14" is provided with bristles 16" which are in the form of a plurality of transversely extending blades integrally moulded with the rest of the body part 14". The blades 16" are arranged such that each of them is disposed at an angle to the surface of the body part 14". As can be seen, the bristles or blades 16" vary in length from one side of the body part 14" to the other. The blades 16" may be used to remove the remains of old or dead skin from the body. The body part 14" is also provided with holes 24".

The claims which follow are to be considered an integral part of the disclosure.

Claims

1. A body brush suitable for use on the human body, comprising a handle part and a dish-shaped body part with bristles thereon, the parts being flexible and removably attachable to each other, and defining a cavity between them so that the body brush can contain a cake of soap, a fluid or the like to be applied to the body, the body part being provided with openings for allowing the contents of the brush to exit therefrom, characterized in that the handle part comprises transversely extending fins or baffles at its normally lower end projecting into the cavity, to promote an even distribution of the contents of the body brush to the bristles.

2. A body brush as claimed in Claim 1, characterized in that the handle part is hollow and in that it defines a chamber which is in communication with the cavity.

3. A body brush as claimed in Claim 1, characterized in that the handle part is shaped such as to fit a user's hand when it is in a partly closed position, and in that the thickness and material of construction of the handle part are such as to facilitate a pump action, when the hand is opened and closed.

4. A body brush as claimed in Claim 1, characterized in that the handle part is provided with a flat surface at its normally top end, suitable for supporting the brush when it is turned upside down.

5. A body brush as claimed in Claim 1, characterized in that the handle part is provided with an outwardly projecting, circumferentially extending flange, adapted to coact with an inwardly facing complementary groove on the perimeter of the body part, the flange optionally being more rigid

than the material forming the groove of the body part.

6. A body brush as claimed in Claim 1, characterized in that it is manufactured of a rubber compound formulated such that, upon vulcanization thereof, the body part has a Shore hardness, expressed on the A scale, of between 25 and 45, and the handle part optionally having a Shore hardness, as measured on the A scale, of between 35 and 65.

7. A body brush as claimed in Claim 1, characterized in that the body part and the handle part are each made of a rubber compound which, upon vulcanization, yields a body brush having an elongation at break of between 550% and 650%.

8. A body brush as claimed in Claim 1, characterized in that the bristles are integrally moulded with the body part and at least some of them are arranged in a star or a cross-shaped pattern, the bristles optionally being of different thicknesses, the bristles forming the star or cross-shaped pattern optionally being thicker than the surrounding bristles.

9. A body brush as claimed in Claim 1, characterized in that the bristles are in the form of a plurality of transversely extending blades which are also moulded integrally with the rest of the body part, the blades optionally being arranged such that each of them is disposed at an angle to the surface of the body part.

10. A body brush as claimed in Claim 9, characterized in that the blades vary in length in a transverse direction, from one side of the body part to the other, and optionally also in a longitudinal direction, from one side of the body part to the other.

11. A handle accessory for a body brush as claimed in Claim 1, characterized in that it comprises:

- a base member removably connectable to the body part of the body brush and being adapted, together with the body part, to define a chamber for containing a liquid or solid substance; and
- an elongated handle member integrally formed with the base member, so as to permit the use of the body part in or on remote parts of the body.

12. A handle accessory as claimed in Claim 11, characterized in that the base member is provided with fastening means adapted to fasten the base member to the body part, the fastening means optionally being in the form of a circumferentially extending, outwardly projecting flange provided along the perimeter of the base member, the flange being adapted to engage with the groove of the body part.

13. A handle accessory as claimed in Claim 11, characterized in that the handle member comprises two separable parts, and optionally is provided with a longitudinally extending bore suitable

for storing a fluid such as a lotion or the like.

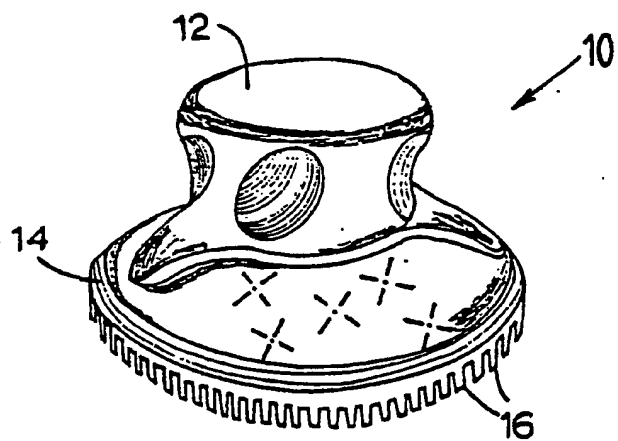
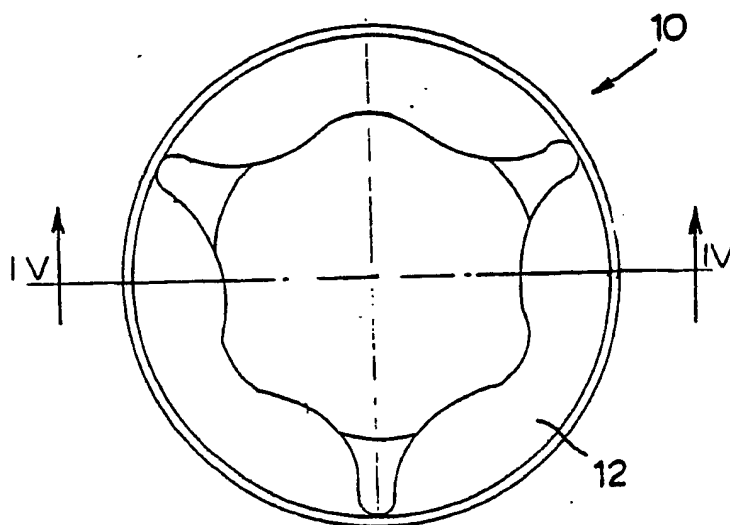
14. A handle accessory as claimed in Claim 13, characterized in that the distal end of the handle member is provided with a removable closure for closing the bore, the proximal end of the bore being in communication with the cavity. 5

15. A method of manufacturing a body brush, characterized in that it includes the steps of:

- forming the body brush by injection moulding using a rubber compound, the body brush comprising a handle part and a dish-shaped body part with bristles thereon, the parts being flexible and removably attachable to each other, and defining a cavity between them so that the body brush can contain a cake of soap, a fluid or the like to be applied to the body, the body part being provided with openings for allowing the contents of the brush to exit therefrom; and 10 15

- vulcanizing the rubber compound, the handle part being provided with transversely extending fins or baffles at its lower end projecting into the cavity, to promote an even distribution of the contents of the body brush to the bristles. 20

16. A method as claimed in Claim 15, characterized in that it includes the step of preformulating the rubber compound so that the body brush will have, upon vulcanization thereof, an elongation at break of between 550% and 650%, a Shore hardness of the handle part, as measured on the A scale, of between 35 and 65, and a Shore hardness of the body part, as measured on the A scale, of between 25 and 45. 25 30 35 40 45 50 55 7



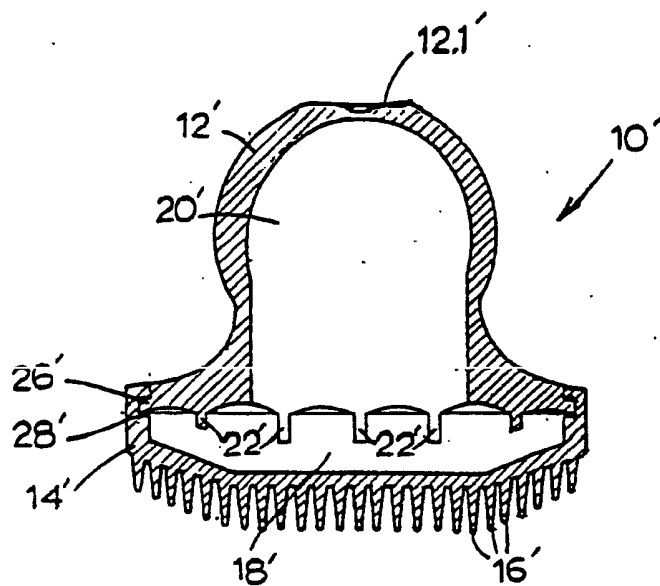


FIG 3

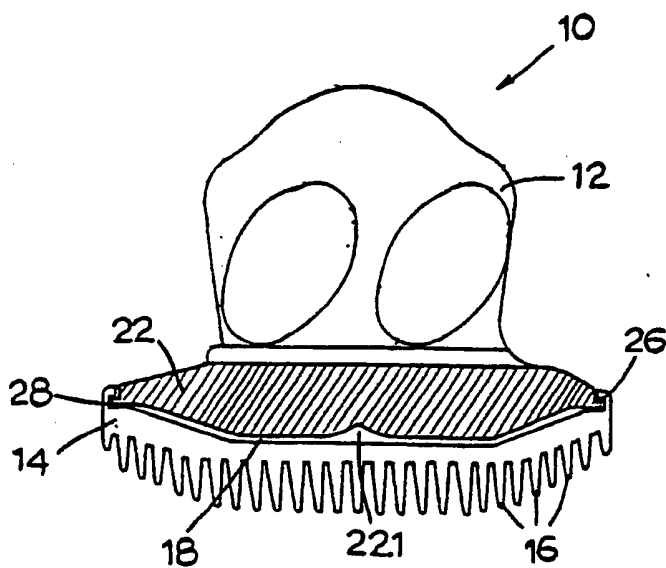
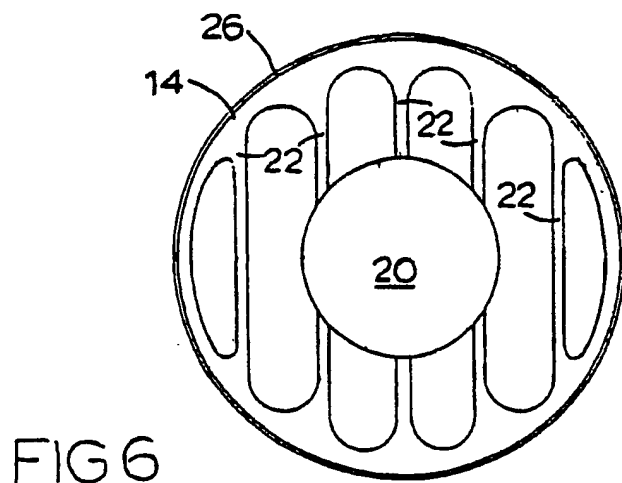
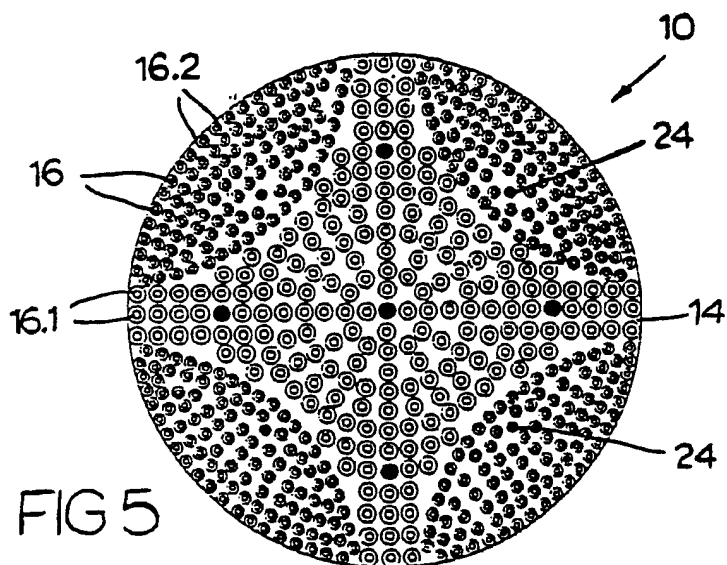
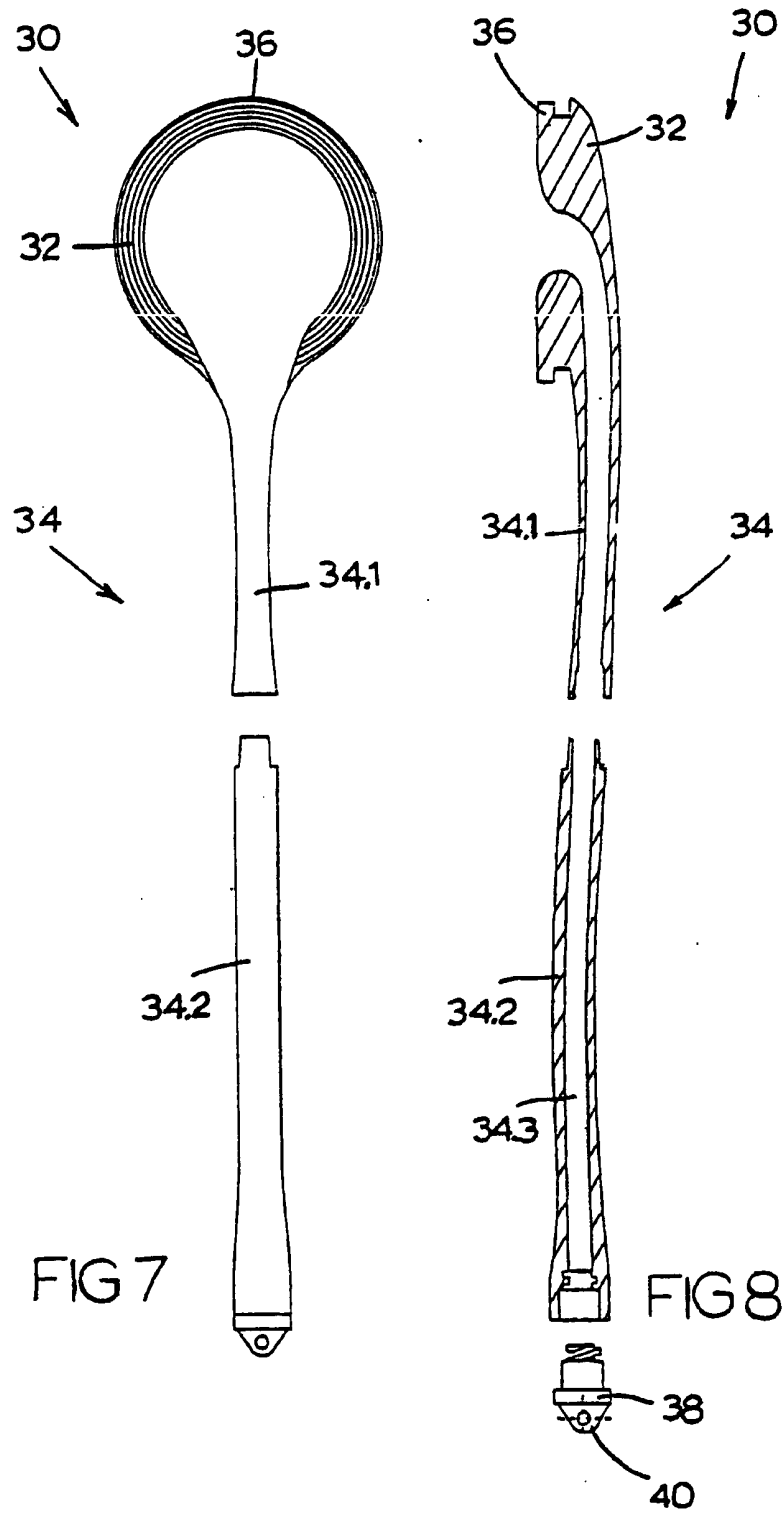


FIG 4





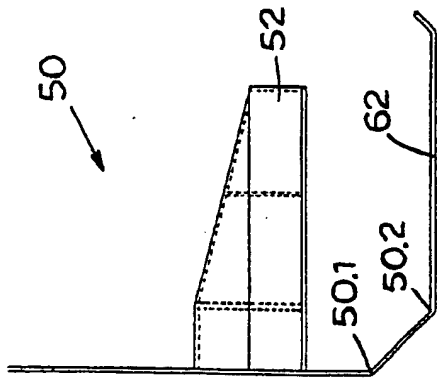


FIG 9

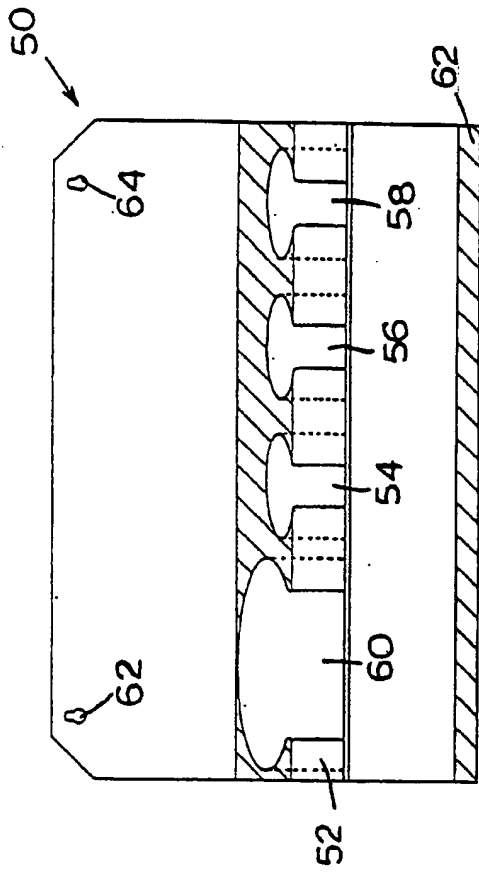


FIG 10

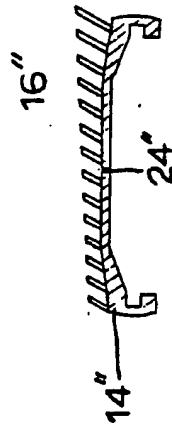


FIG 12

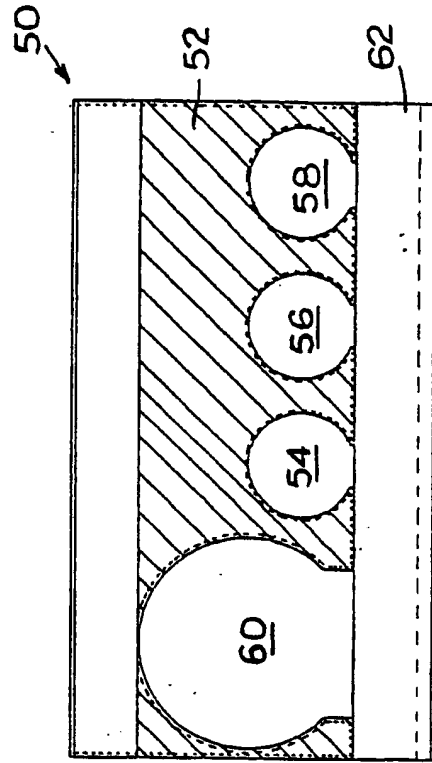


FIG 11

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European Patent Office
Office européen des brevets



11 Publication number:

0 404 500 A3

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EUROPEAN PATENT APPLICATION

21 Application number: 90306653.8

51 Int. Cl.⁵: **A46B 11/00**, **A46B 5/02**,
A47K 7/03

22 Date of filing: 19.06.90

30 Priority: 23.06.89 ZA 894776
19.01.90 ZA 900362
02.02.90 ZA 900788

43 Date of publication of application:
27.12.90 Bulletin 90/52

64 Designated Contracting States:
AT BE CH DE DK ES FR GB GR IT LI LU NL SE

68 Date of deferred publication of the search report:
25.09.91 Bulletin 91/39

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54 **Body brush and method of manufacture thereof.**

57 A body brush (10) is disclosed which comprises a handle part (12) and a dish-shaped body part (14) with bristles (16) thereon, the parts being flexible and removably attachable to each other, and defining a cavity (13) between them so that the body brush (10) can contain a cake of soap, a fluid or the like to be applied to the body, the body part (14) being provided with openings for allowing the contents of the brush to exit therefrom. The handle part (12) comprises transversely extending fins (22) or baffles at its normally lower end projecting into the cavity (13), so as to promote an even distribution of the contents of the body brush to the bristles.

The specification also discloses accessories for the brush, a body cleaning set and a method of manufacturing the brush.

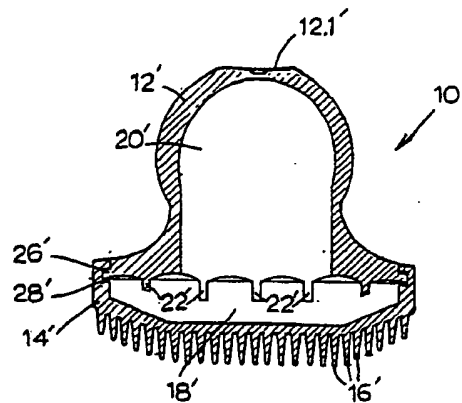


FIG 3

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Application Number

EP 90 30 6653

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.5)
X	FR-A-9 804 96 (ROCCHISANI) * Page 1, right-hand column, lines 10-16; figure 1 *	1,2,5	A 45 B 11/00 A 46 B 5/02 A 47 K 7/03
A	FR-A-1 309 119 (DIETSCHÉ) * Page 2, left-hand column, lines 38-43, right-hand column, lines 2-3,18-22 *	1	
D,A	DE-B-2 749 156 (CHEMISCHE ROTH) * Figure 2 *	1,15	
A	EP-A-0 161 907 (ALPHAPLAN) * Abstract *	11	
A	FR-A-1 255 802 (JOSSOUD) ** Figures 1,2 *	1	
			TECHNICAL FIELDS SEARCHED (Int. Cl.5)
			A 46 B A 47 K A 61 H
The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of search 26 June 91	Examiner LOKERE H.P.
<div>CATEGORY OF CITED DOCUMENTS</div> <div>E: earlier patent document, but published on, or after the filing date</div> <div>D: document cited in the application</div> <div>L: document cited for other reasons</div> <div>A: technological background</div> <div>O: non-written disclosure</div> <div>P: intermediate document</div> <div>T: theory or principle underlying the invention</div> <div>&: member of the same patent family, corresponding document</div>			